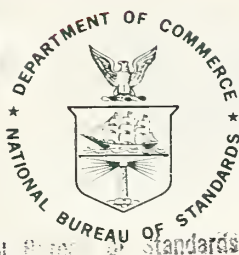


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FIPS PUB **50**



FEDERAL INFORMATION
PROCESSING STANDARDS PUBLICATION

1978 FEBRUARY 1

U.S. DEPARTMENT OF COMMERCE / National Bureau of Standards



**RECORDED MAGNETIC TAPE
FOR INFORMATION INTERCHANGE,
6250 cpi (246 cpm), GROUP
CODED RECORDING**

**CATEGORY: HARDWARE STANDARD
SUBCATEGORY: INTERCHANGE CODES AND MEDIA**

U.S. DEPARTMENT OF COMMERCE, Juanita M. Kreps, Secretary

Dr. Sidney Harman, Under Secretary

Jordan J. Baruch, Assistant Secretary for Science and Technology

NATIONAL BUREAU OF STANDARDS, Ernest Ambler, Acting Director

Foreword

The Federal Information Processing Standards Publication Series of the National Bureau of Standards is the official publication relating to standards adopted and promulgated under the provisions of Public Law 89-306, and Part 6 of Title 15 Code of Federal Regulations. The entire series constitutes the FEDERAL INFORMATION PROCESSING STANDARDS REGISTER.

The series is used to announce Federal Information Processing Standards, and to provide standards information of general interest and an index of relevant standards publications and specifications. Publications that announce adoption of standards provide the necessary policy, administrative, and guidance information for effective standards implementation and use. The technical specifications of the standard are usually attached to the publication, otherwise a reference source is cited.

Comments covering Federal Information Processing Standards and Publications are welcomed, and should be addressed to the Associate Director for ADP Standards, Institute for Computer Sciences and Technology, National Bureau of Standards, Washington, D.C. 20234. Such comments will be either considered by NBS or forwarded to the responsible activity as appropriate.

ERNEST AMBLER, *Acting Director*

Abstract

This FIPS PUB announces the adoption, with one exception, of the American National Standard X3.54-1976, Recorded Magnetic Tape for Information Interchange (6250 CPI, Group-Coded Recording). This standard specifies the recorded characteristics of 9-track, one-half inch (12.7 mm) wide magnetic computer tape, including the format for implementing the Standard Code for Information Interchange (ASCII) at the recording density of 6250 characters per inch (246 characters per millimeter). It is one of a series of Federal Standards implementing ASCII on magnetic tape media.

Key words: Communications; computers; computer system hardware; data processing; data processing equipment; information systems; magnetic tape recording; magnetic tapes; magnetic tape transports; standards.

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ANNOUNCING THE STANDARD FOR

RECORDED MAGNETIC TAPE FOR INFORMATION INTERCHANGE, 6250 cpi (246 cpmm), GROUP-CODED RECORDING

Federal Information Processing Standards Publications are issued by the National Bureau of Standards pursuant to the Federal Property and Administrative Services Act of 1949, as amended, Public Law 89-306 (79 Stat. 1127), Executive Order 11717 (38 FR 12315, dated May 11, 1973) and Part 6 of Title 15 Code of Federal Regulations (CFR).

Name of Standard. Recorded Magnetic Tape for Information Interchange, 6250 cpi (246 cpmm), Group-Coded Recording (FIPS PUB 50).

Category of Standard. Hardware Standard, Interchange Codes and Media.

Explanation. This standard specifies the recorded characteristics of 9-track, one-half inch (12.7 mm) wide magnetic computer tape, including the format for implementing the Standard Code for Information Interchange (ASCII) at the recording density of 6250 characters per inch (246 characters per millimeter). It is one of a series of Federal Standards implementing ASCII on magnetic tape media.

Approving Authority. Secretary of Commerce.

Maintenance Agency. Department of Commerce, National Bureau of Standards (Institute for Computer Sciences and Technology).

Cross Index.

- a. FIPS PUB 1, Federal Standard Code for Information Interchange (ASCII).
- b. FIPS PUB 3-1, Recorded Magnetic Tape for Information Interchange (800 CPI, NRZI).
- c. FIPS PUB 25, Recorded Magnetic Tape for Information Interchange (1600 CPI, Phase Encoded).
- d. FIPS PUB 35, Code Extension Techniques in 7 or 8 Bits.
- e. American National Standard X3.40-1976, Unrecorded Magnetic Tape for Information Interchange (9-Track 200 and 800 CPI, NRZI, and 1600 CPI, PE).
- f. American National Standard X3.54-1976, Recorded Magnetic Tape for Information Interchange (6250 CPI, Group-Coded Recording).

Applicability. This standard is applicable to the acquisition and use of all 9-track magnetic tape recording and reproducing equipment employing one-half inch (12.7 mm) wide tape at recording densities of 6250 characters per inch (246 characters per millimeter). Federal information processing systems employing such equipment, including associated software, shall provide the

capability to accept and generate recorded tapes in compliance with the requirements set forth in this standard.

Specifications. With one exception, this standard adopts the requirements set forth in the American National Standard X3.54-1976, Recorded Magnetic Tape for Information Interchange (6250 CPI, Group-Coded Recording), which was developed and approved by the American National Standards Institute. The exception changes paragraph 5.4.4 of X3.54-1976 to read: "Bit Z shall be zero or treated as a bit of higher order than the ASCII bits." This is interpreted as:

- Bit Z shall be a zero when recording the ASCII (FIPS 1) characters.
- Bit Z can be other than zero when recording dense numeric, binary, or extended ASCII (FIPS 35) code representations.

Implementation Schedule. All applicable equipment ordered on or after the date of this FIPS PUB must be in conformance with this standard unless a waiver has been obtained in accordance with the procedure described below. Exceptions to this standard are made in the following cases:

- a. For equipment installed or on order prior to the date of this FIPS PUB.
- b. Where procurement actions are into the solicitation phase (i.e., Request for Proposals or Invitation for Bids has been issued) on the date of this FIPS PUB.

Special Information. For the acquisition of unrecorded magnetic tape, Interim Federal Specification W-T-0051C, Tape, Electronic Data Processing, One-Half Inch, Magnetic Oxide-Coated, is applicable. This specification is issued by the Federal Supply Service of the General Services Administration (GSA).

Also, GSA will provide terminology for use of this standard in Federal ADP acquisitions. This terminology will be incorporated in the Federal Property Management Regulations (Title 41, Subtitle C, Chapter 101, Subpart 101-32.13, Code of Federal Regulations).

Qualifications. None.

Waiver Procedure. Heads of agencies may waive the provisions of the implementation schedule. Proposed waivers relating to the procurement of non-conforming equipment will be coordinated in advance with the National Bureau of Standards. Letters should be addressed to the Associate Director for ADP Standards, Institute for Computer Sciences and Technology, National Bureau of Standards, Washington, D.C. 20234. They should describe the nature of the waiver and set forth the reasons therefor.

Sixty days should be allowed for review and response by the National Bureau of Standards. However, the final decision for granting the waiver is a responsibility of the agency head.

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